US010144532B2

(12) **United States Patent**
Pais

(10) **Patent No.: US 10,144,532 B2**
(45) **Date of Patent: Dec. 4, 2018**

(54) **CRAFT USING AN INERTIAL MASS REDUCTION DEVICE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 153 days.

(21) Appl. No.: **15/141,270**

(22) Filed: **Apr. 28, 2016**

(65) **Prior Publication Data**

US 2017/0313446 A1 Nov. 2, 2017

(51) **Int. Cl.**
B64G 1/40 (2006.01)

(52) **U.S. Cl.**
CPC ***B64G 1/409*** (2013.01)

(58) **Field of Classification Search**
CPC B64G 1/409
See application file for complete search history.

(56) **References Cited**

PUBLICATIONS

Froning, H. David, Quantum Vacuum Engineering for Power and Propulsion from the Energetics of Space, Third International Conference on Future Energy, Oct. 9-10, 2009, Washington, DC, US.

Pais, Salvatore, Conditional Possibility of Spacecraft Propulsion at Superluminal Speeds, Intl. J. Space Science and Engineering, 2015, vol. 3, No. 1, Inderscience Enterprises Ltd.

Puthoff, H.E., Polarizable-Vacuum (PV) Approach to General Relativity, Foundations of Physics, Jun. 2002, vol. 32, No. 6.

Prigogine, Ilya, Time, Structure and Fluctuations, Nobel Lecture, Dec. 8, 1977, Brussels, Belgium and Austin, Texas.

Hayasaka, Hideo and Takeuchi, Sakae, Anomalous Weight Reduction on a Gyroscope's Right Rotations around the Vertical Axis on the Earth, The American Physical Society, Physical Review Letters, Dec. 18, 1989, vol. 63, No. 25, Japan.

Pais, Salvatore, The High Energy Electromagnetic Field Generator, Int. J. Space Science and Engineering, 2015, vol. 3, No. 4, Inderscience Enterprises, Ltd.

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(57) **ABSTRACT**

A craft using an inertial mass reduction device comprises of an inner resonant cavity wall, an outer resonant cavity, and microwave emitters. The electrically charged outer resonant cavity wall and the electrically insulated inner resonant cavity wall form a resonant cavity. The microwave emitters create high frequency electromagnetic waves throughout the resonant cavity causing the resonant cavity to vibrate in an accelerated mode and create a local polarized vacuum outside the outer resonant cavity wall.

4 Claims, 1 Drawing Sheet